

REMARKS

This Amendment is made in response to the Official Action mailed September 9, 2008. Claims 1-25 are pending in this application. Claims 20 and 23 have been amended. Reconsideration and withdrawal of the objections to and rejections of this application are respectfully requested in view of the above amendments, and further, in view of the following remarks.

The Examiner objects to claim 5 which is dependent on claim 4 and which limits the broader definition of the capacitor recited in claim 4. Applicants urge that this is proper claim language, particularly because the broader and narrower limitations appear in separate claims.

According to MPEP §2173.05(c), “[U]se of a narrow numerical range that falls within a broader range in the same claim may render the claim indefinite when the boundaries of the claim are not discernible”, for example ‘a temperature of between 45 and 78 degrees Celsius, preferably between 50 and 60 degrees Celsius’. However, “[A] a narrower range or preferred embodiment may also be set forth in another independent claim or in a dependent claim”. Therefore, “[W]hile a single claim that includes both a broad and a narrower range may be indefinite, it is not improper under 35 U.S.C. §112, second paragraph, to present a dependent claim that sets forth a narrower range for an element than the range set forth in the claim from which it depends. For example, if claim 1 reads “A circuit ... wherein the resistance is 70-150 ohms.” and claim 2 reads “The circuit of claim 1 wherein the resistance is 70-100 ohms.”, then claim 2 should not be rejected as indefinite”. This is precisely the type of language used by Applicants in claims 4 and 5.

Claim 5 is therefore written in proper and clear format. Favorable reconsideration of the objection is requested.

Claims 1-16, 20 and 22-25 have been rejected under 35 U.S.C. §103(a), as obvious over U.S. Patent 5,561,881, granted October 8, 1996, to Klinger et al. (“Klinger”) in view of U.S. Patent 6,437,544, granted August 20, 2002, to Yang (“Yang”). Reconsideration and withdrawal of the rejection are respectfully requested.

The Action alleges that Klinger discloses an electrically powered toothbrush in combination with a charging unit to which the toothbrush may be connected for recharging. The Action further alleges that charging unit item 200 in Fig. 1 of Klinger incorporates an electricity supply comprising one or more rechargeable battery cells. Applicants respectfully disagree.

In Klinger, the only rechargeable battery cells are present in the toothbrush 110. The charging unit 200 contains only an indicator unit 210, an infrared receiver 230, a

power cord 240, and a transformer 250. Apart from its infra-red communication system the arrangement of toothbrush 110 and charger unit 200 in Klinger is conventional.

Yang discloses an emergency auxiliary power unit 101 which can be connected to a charging source such as rectified AC mains. The power supply 101 can store electricity in a battery, supercapacitor or other storage 105 (see col. 2, lines 40-41). The power supply 101 is connectable to load unit 104 which also includes a battery, supercapacitor or other storage 106 (see col. 2, lines 64-66) and load unit 104 may be a home electric appliance (see col. 2, line 67).

Yang does not provide any teaching concerning what kind of "home electrical appliance" the emergency auxiliary power supply might be suitable for. Yang discloses an "emergency" power supply, presumably one which can be used if the main electric supply fails in a power cut. The present claimed invention is of a power toothbrush. Power toothbrushes are well known to be regularly used, day-to-day articles, usable over a long time period. This is the opposite to "emergency" conditions. In an emergency, single use, short lifetime, disposable-after-use systems are often used. Therefore, by being intended for emergency uses, Yang gives no suggestion that its system might be useful for day-to-day articles such as the present claimed power toothbrush.

Therefore claims 1 and 20, and by virtue of dependency, the dependent claims 2-16 and 22, are not obvious under 35 USC §103(a) over Klinger, read alone, or in any fair combination with Yang.

Moreover, in relation to present claims 9-19 and claim 23 with its amended dependency, there is no disclosure or suggestion in either Klinger or Yang, or any combination thereof, of the arrangement claimed in claim 9 of the temporary application of a higher voltage V2, higher than the charging voltage V1. The advantage of this is taught in the instant specification at page 5, lines 10-22, that by doing so it is possible to get the supercapacitor to deliver more than its normal rated power output, but without the damage that might occur if the supercapacitor is permanently connected to voltage V2.

Concerning independent claim 24 and its dependent claim 25, Klinger only discloses that its toothbrush 110 is provided with a "rechargeable battery" (see col. 5, line 17). Yang gives no indication what kind of "home electric appliance" (col. 2, line 67) its emergency power supply might be suitable for, with no suggestion of suitability for toothbrushes. It is pure hindsight analysis to assume the power output of Yang's system would be suitable for a toothbrush. Yang provides an "emergency" power supply, pointing away from the kind of regular use envisaged for a toothbrush. Neither does Yang provide any suggestion of a suitable size for a supercapacitor to power a toothbrush, as claimed in present claim 24. Therefore claims 24 and 25 are not obvious under 35 USC §103(a) in

view of Klinger and/or Yang. Reconsideration and withdrawal of this rejection are respectfully requested.

Claims 17-19 have been rejected under 35 U.S.C. §103(a), as obvious over Klinger in view of Yang as applied to claim 1, and further in view of U.S. Patent 6,140,802, granted October 31, 2000, to Lundell et al. ("Lundell"). The Action admits that Klinger and Yang do not disclose systems in which the charging voltage is increased from V1 to V2, but that this is obvious over Lundell's disclosure at col. 3, lines 30-53 and Fig. 5.

Lundell does not disclose a system in which the charging voltage supplied to the toothbrush power storage unit (battery 36) is changed. In Lundell, the charger unit 28, as described at col. 2, line 58, col. 3, line 21, col. 3, line 67, col. 4, line 1 and col. 4, line 24, appears to be conventional. As described in col. 3, lines 30-53, the toothbrush of Lundell incorporates a control system in which the power supplied from the battery 36 to the motor 20 is varied, to control motor speed. The reason for this, as disclosed in Lundell at col. 1, lines 24-50, is to minimize unpleasant vibrations experienced by the user during use of the toothbrush. This is a completely different electrical procedure and purpose than the present invention, in which as explained above, the change in charging voltage is used to get more power out of the capacitor.

Therefore, claims 17-19 are not obvious under 35 USC §103(a) over Klinger, Yang, and Lundell. Reconsideration and withdrawal of the rejection are respectfully requested.

Claim 21 has been rejected under 35 U.S.C. §103(a), as obvious over Klinger in view of Yang as applied to claim 21, and further in view of U.S. Patent 5,727,273, granted March 17, 1998, to Pai ("Pai"). In particular, the Action alleges that Pai discloses an electric toothbrush which is powered by rechargeable nickel-cadmium cells (see col. 3, lines 55-57), and that it would have been obvious to modify the Yang and Klinger systems to provide optimum charging.

Pai discloses a charger unit shown in Fig. 3 for an electric toothbrush which is powered by rechargeable nickel-cadmium cells held in the charging casing 2 shown in Fig. 6. Electrical power is communicated to the cells via "reeds" 131. In Pai the charger unit appears to be connected to power source hole 1411 at the position of the electrical connector 1121 (see, col. 3, lines 7-10). However, the rechargeable nickel-cadmium cells in Pai are themselves charged by connection of the reeds 131 to "the power source by a conventional circuit" (see col. 3, lines 1-2), which also appears to drive the ozone unit built into the charger unit.

There is no disclosure or suggestion in Pai of charging nickel-cadmium cells within a toothbrush from replaceable or rechargeable battery cells incorporated into the charger unit, as claimed in present claim 20 upon which claim 21 is dependent.

Therefore claim 21 is not obvious under 35 USC §103(a) over Klinger in view of Yang, and further, in view of Pai US 5,727,273. Reconsideration and withdrawal of the rejection under Section 103(a) are respectfully requested.

In view of the foregoing, favorable reconsideration of claims 1-25 and allowance of this application are earnestly solicited.

Respectfully submitted,



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